RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/603,249
Source:
Date Processed by STIC:

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RAW SEQUENCE LISTING DATE: 10/18/2004
PATENT APPLICATION: **US/10/603,249** TIME: 09:25:35

Input Set : **N:\Crf3\RULE60\10603249.raw.txt**
Output Set: **N:\CRF4\10182004\J603249.raw**

<110> APPLICANT: Van der Ploeg, Leonardus H.T.
Chen, Howard Y.
Chen, Airu S.
<120> TITLE OF INVENTION: MELANOCORTIN-3 RECEPTOR DEFICIENT CELLS
, NON-HUMAN TRANSGENIC ANIMALS AND METHODS OF SELECTING
COMPOUNDS WHICH REGULATE BODY WEIGHT
<130> FILE REFERENCE: 20561Y
<140> CURRENT APPLICATION NUMBER: US/10/603,249
<141> CURRENT FILING DATE: 2003-06-25
<150> PRIOR APPLICATION NUMBER: US/09/709,066
<151> PRIOR FILING DATE: 2000-11-09
<160> NUMBER OF SEQ ID NOS: 15
<170> SOFTWARE: FastSEQ for Windows Version 4.0
<210> SEQ ID NO: 1
<211> LENGTH: 1675
<212> TYPE: DNA
<213> ORGANISM: Mus musculus (house mouse)
<400> SEQUENCE: 1

tctagactgg acagcatcca caagagaagc acctagaagg agaattttcc ccagcagctt 60
gctcaggacc ctgcaggagc cgcagctggg actggacctg ctgttaacca tgaactcttc 120
ctgctgcctg tcttctgttt ctccgatgct gcctaacctc tctgagcacc ctgcagcccc 180
tcctgccagc aaccggagcg gcagtgggtt ctgtgagcag gtcttcatca agccggaggt 240
cttcctggct ctgggcatcg tcagtctgat ggaaaacatc ctggtgatcc tggctgtggt 300
caggaatggc aacctgcact ctcccatgta cttcttcctg tgcagcctgg ctgcagccga 360
catgctggtg agcctgtcca actccctgga gaccatcatg atcgccgtga tcaacagcga 420
ctccctgacc ttggaggacc agtttatcca gcacatggat aatatcttcg actctatgat 480
ttgcatctcc ctggtggcct ccatctgcaa cctcctggcc attgccatcg acaggtacgt 540
caccatcttc tatgcccttc ggtaccacag catcatgaca gttaggaaag ccctcacctt 600
gatcggggtc atctgggtct gctgcggcat ctgcggcgtg atgttcatca tctactccga 660
gagcaagatg gtcatcgtgt gtctcatcac catgttcttc gccatggtgc tcctcatggg 720
caccctatat atccacatgt tcctcttcgc caggctccac gtccagcgca tcgcagtgct 780
gccccctgct ggcgtggtgg ccccacagca gcactcctgc atgaaggggg ctgtcaccat 840
cactatcctg ctgggtgttt tcatcttctg ctgggcgcct ttcttcctcc acctggtcct 900
catcatcacc tgccccacca atccctactg catctgctac acggcccatt tcaacaccta 960
cctggttctc atcatgtgca actccgtcat cgacccccctc atctacgcct tccgcagcct 1020
ggagctgcgc aacacgttca aggagattct ctgcggctgc aacagcatga acttgggcta 1080
ggatgcccgt ggaggtgttc cacatccagc caagagacaa aaacaacgct cagacgggac 1140
gtaaaagggt gttaggagct ggaactgtgc ttggcttcgt ctgtaagctc gtggcccttt 1200
gcagacggga cacggcgtag gatgggctgt ctgtgaggat ctgtgtgtgg gtaagtcagt 1260
ttgatctagc acatagcctg gaagaatcag gcaaagcagc cctgagtgtc atctgtgttc 1320
attgctaggc acccagggtt tgtggcccct gcctgcttat tggctttgta ccagtaactg 1380
tgcttcaagc caaccagacc ggagggctct cgtgagcaga aagagtgctt agacttccgg 1440
caagcatcct ggctcacagc ggccacctcc tgaccactac cgggagagct ttgcacatat 1500

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tctgtgggag attgagtgaa gccctgaaaa caatgtgata tttgctgctc ccttccagaa 1560
cttacatctg tgccagcctc cccgaacccc tgcacagaga catgaccccc ttctccctgt 1620
gccgttgtca tggttgttat tattgttgga gttttgttcg ttaaaatcta agctt 1675

<210> SEQ ID NO: 2
<211> LENGTH: 323
<212> TYPE: PRT
<213> ORGANISM: Mus musculus (house mouse)
<400> SEQUENCE: 2

```
Met Asn Ser Ser Cys Cys Leu Ser Ser Val Ser Pro Met Leu Pro Asn
 1               5                  10                  15
Leu Ser Glu His Pro Ala Ala Pro Pro Ala Ser Asn Arg Ser Gly Ser
            20                  25                  30
Gly Phe Cys Glu Gln Val Phe Ile Lys Pro Glu Val Phe Leu Ala Leu
        35                  40                  45
Gly Ile Val Ser Leu Met Glu Asn Ile Leu Val Ile Leu Ala Val Val
    50                  55                  60
Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe Phe Leu Cys Ser Leu
65                  70                  75                  80
Ala Ala Ala Asp Met Leu Val Ser Leu Ser Asn Ser Leu Glu Thr Ile
                85                  90                  95
Met Ile Ala Val Ile Asn Ser Asp Ser Leu Thr Leu Glu Asp Gln Phe
            100                 105                 110
Ile Gln His Met Asp Asn Ile Phe Asp Ser Met Ile Cys Ile Ser Leu
        115                 120                 125
Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala Ile Asp Arg Tyr Val
    130                 135                 140
Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile Met Thr Val Arg Lys
145                 150                 155                 160
Ala Leu Thr Leu Ile Gly Val Ile Trp Val Cys Cys Gly Ile Cys Gly
                165                 170                 175
Val Met Phe Ile Ile Tyr Ser Glu Ser Lys Met Val Ile Val Cys Leu
            180                 185                 190
Ile Thr Met Phe Phe Ala Met Val Leu Leu Met Gly Thr Leu Tyr Ile
        195                 200                 205
His Met Phe Leu Phe Ala Arg Leu His Val Gln Arg Ile Ala Val Leu
    210                 215                 220
Pro Pro Ala Gly Val Val Ala Pro Gln Gln His Ser Cys Met Lys Gly
225                 230                 235                 240
Ala Val Thr Ile Thr Ile Leu Leu Gly Val Phe Ile Phe Cys Trp Ala
                245                 250                 255
Pro Phe Phe Leu His Leu Val Leu Ile Ile Thr Cys Pro Thr Asn Pro
            260                 265                 270
Tyr Cys Ile Cys Tyr Thr Ala His Phe Asn Thr Tyr Leu Val Leu Ile
        275                 280                 285
Met Cys Asn Ser Val Ile Asp Pro Leu Ile Tyr Ala Phe Arg Ser Leu
    290                 295                 300
Glu Leu Arg Asn Thr Phe Lys Glu Ile Leu Cys Gly Cys Asn Ser Met
305                 310                 315                 320
Asn Leu Gly
```

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PATENT APPLICATION: **US/10/603,249** TIME: 09:25:35

Input Set : **N:\Crf3\RULE60\10603249.raw.txt**
Output Set: **N:\CRF4\10182004\J603249.raw**

<210> SEQ ID NO: 3
<211> LENGTH: 1080
<212> TYPE: DNA
<213> ORGANISM: Homo sapien
<400> SEQUENCE: 3

```
atgagcatcc aaaagaagta tctggaggga gattttgtct ttcctgtgag cagcagcagc      60
ttcctacgga ccctgctgga gccccagctc ggatcagccc ttctgacagc aatgaatgct     120
tcgtgctgcc tgccctctgt tcagccaaca ctgcctaatg gctcggagca cctccaagcc     180
cctttcttca gcaaccagag cagcagcgcc ttctgtgagc aggtcttcat caagcccgag     240
attttcctgt ctctgggcat cgtcagtctg ctggaaaaca tcctggttat cctggccgtg     300
gtcaggaacg gcaacctgca ctccccgatg tacttctttc tctgcagcct ggcggtggcc     360
gacatgctgg taagtgtgtc caatgccctg gagaccatca tgatcgccat cgtccacagc     420
gactacctga ccttcgagga ccagtttatc cagcacatgg acaacatctt cgactccatg     480
atctgcatct ccctggtggc ctccatctgc aacctcctgg ccatcgccgt cgacaggtac     540
gtcaccatct tttacgcgct ccgctaccac agcatcatga ccgtgaggaa ggccctcacc     600
ttgatcgtgg ccatctgggt ctgctgcggc gtctgtggcg tggtgttcat cgtctactcg     660
gagagcaaaa tggtcattgt gtgcctcatc accatgttct tcgccatgat gctcctcatg     720
ggcaccctct acgtgcacat gttcctcttt gcgcggctgc acgtcaagcg catagcagca     780
ctgccacctg ccgacggggt ggccccacag caacactcat gcatgaaggg ggcagtcacc     840
atcaccattc tcctgggcgt gttcatcttc tgctgggccc ccttcttcct ccacctggtc     900
ctcatcatca cctgccccac caacccctac tgcatctgct acactgccca cttcaacacc     960
tacctggtcc tcatcatgtg caactccgtc atcgacccac tcatctacgc tttccggagc    1020
ctggaattgc gcaacacctt tagggagatt ctctgtggct gcaacggcat gaacttggga    1080
```

<210> SEQ ID NO: 4
<211> LENGTH: 360
<212> TYPE: PRT
<213> ORGANISM: Homo sapien
<400> SEQUENCE: 4

```
Met Ser Ile Gln Lys Lys Tyr Leu Glu Gly Asp Phe Val Phe Pro Val
 1               5                  10                  15
Ser Ser Ser Ser Phe Leu Arg Thr Leu Leu Glu Pro Gln Leu Gly Ser
            20                  25                  30
Ala Leu Leu Thr Ala Met Asn Ala Ser Cys Cys Leu Pro Ser Val Gln
        35                  40                  45
Pro Thr Leu Pro Asn Gly Ser Glu His Leu Gln Ala Pro Phe Phe Ser
    50                  55                  60
Asn Gln Ser Ser Ser Ala Phe Cys Glu Gln Val Phe Ile Lys Pro Glu
65                  70                  75                  80
Ile Phe Leu Ser Leu Gly Ile Val Ser Leu Leu Glu Asn Ile Leu Val
                85                  90                  95
Ile Leu Ala Val Val Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe
            100                 105                 110
Phe Leu Cys Ser Leu Ala Val Ala Asp Met Leu Val Ser Val Ser Asn
        115                 120                 125
Ala Leu Glu Thr Ile Met Ile Ala Ile Val His Ser Asp Tyr Leu Thr
    130                 135                 140
Phe Glu Asp Gln Phe Ile Gln His Met Asp Asn Ile Phe Asp Ser Met
145                 150                 155                 160
Ile Cys Ile Ser Leu Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala
```

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PATENT APPLICATION: **US/10/603,249** TIME: 09:25:35

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Output Set: **N:\CRF4\10182004\J603249.raw**

```
146                     165                 170                 175
147       Val Asp Arg Tyr Val Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile
148                   180                 185                 190
149       Met Thr Val Arg Lys Ala Leu Thr Leu Ile Val Ala Ile Trp Val Cys
150               195                 200                 205
151       Cys Gly Val Cys Gly Val Val Phe Ile Val Tyr Ser Glu Ser Lys Met
152           210                 215                 220
153       Val Ile Val Cys Leu Ile Thr Met Phe Phe Ala Met Met Leu Leu Met
154       225                 230                 235                 240
155       Gly Thr Leu Tyr Val His Met Phe Leu Phe Ala Arg Leu His Val Lys
156                     245                 250                 255
157       Arg Ile Ala Ala Leu Pro Pro Ala Asp Gly Val Ala Pro Gln Gln His
158                   260                 265                 270
159       Ser Cys Met Lys Gly Ala Val Thr Ile Thr Ile Leu Leu Gly Val Phe
160               275                 280                 285
161       Ile Phe Cys Trp Ala Pro Phe Phe Leu His Leu Val Leu Ile Ile Thr
162           290                 295                 300
163       Cys Pro Thr Asn Pro Tyr Cys Ile Cys Tyr Thr Ala His Phe Asn Thr
164       305                 310                 315                 320
165       Tyr Leu Val Leu Ile Met Cys Asn Ser Val Ile Asp Pro Leu Ile Tyr
166                     325                 330                 335
167       Ala Phe Arg Ser Leu Glu Leu Arg Asn Thr Phe Arg Glu Ile Leu Cys
168                   340                 345                 350
169       Gly Cys Asn Gly Met Asn Leu Gly
170               355                 360
172 <210> SEQ ID NO: 5
173 <211> LENGTH: 28
174 <212> TYPE: DNA
175 <213> ORGANISM: Artificial Sequence
176 <220> FEATURE:
177 <223> OTHER INFORMATION: oligonucleotide
178 <400> SEQUENCE: 5
179       gatgagagaa gactggagag agagggtc                                    28
181 <210> SEQ ID NO: 6
182 <211> LENGTH: 27
183 <212> TYPE: DNA
184 <213> ORGANISM: Artificial Sequence
185 <220> FEATURE:
186 <223> OTHER INFORMATION: oligonucleotide
187 <400> SEQUENCE: 6
188       gaagaagtac atgggagagt gcaggtt                                     27
190 <210> SEQ ID NO: 7
191 <211> LENGTH: 27
192 <212> TYPE: DNA
193 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: oligonucleotide
196 <400> SEQUENCE: 7
197       gatgagagaa gactggagga gagggtc                                     27
```

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PATENT APPLICATION: **US/10/603,249** TIME: 09:25:35

Input Set : **N:\Crf3\RULE60\10603249.raw.txt**
Output Set: **N:\CRF4\10182004\J603249.raw**

199 <210> SEQ ID NO: 8
200 <211> LENGTH: 24
201 <212> TYPE: DNA
202 <213> ORGANISM: Artificial Sequence
203 <220> FEATURE:
204 <223> OTHER INFORMATION: oligonucleotide
205 <400> SEQUENCE: 8
206 taccggtgga tgtggaatgt gtgc 24
208 <210> SEQ ID NO: 9
209 <211> LENGTH: 45
210 <212> TYPE: DNA
211 <213> ORGANISM: Artificial Sequence
212 <220> FEATURE:
213 <223> OTHER INFORMATION: oligonucleotide
214 <400> SEQUENCE: 9
215 agccaggatc accaggatgt tttccatcag actgacgatg cccag 45
217 <210> SEQ ID NO: 10
218 <211> LENGTH: 45
219 <212> TYPE: DNA
220 <213> ORGANISM: Artificial Sequence
221 <220> FEATURE:
222 <223> OTHER INFORMATION: oligonucleotide
223 <400> SEQUENCE: 10
224 tgcccatgag gagcaccatg gcgaagaaca tggtgatgag gcaca 45
226 <210> SEQ ID NO: 11
227 <211> LENGTH: 45
228 <212> TYPE: DNA
229 <213> ORGANISM: Artificial Sequence
230 <220> FEATURE:
231 <223> OTHER INFORMATION: oligonucleotide
232 <400> SEQUENCE: 11
233 atgatgagga ccaggtggag gaagaaaggc gcccagcaga agatg 45
235 <210> SEQ ID NO: 12
236 <211> LENGTH: 25
237 <212> TYPE: DNA
238 <213> ORGANISM: Artificial Sequence
239 <220> FEATURE:
240 <223> OTHER INFORMATION: oligonucleotide
241 <400> SEQUENCE: 12
242 ctaaccataa gaaatcagca gcccg 25
244 <210> SEQ ID NO: 13
245 <211> LENGTH: 25
246 <212> TYPE: DNA
247 <213> ORGANISM: Artificial Sequence
248 <220> FEATURE:
249 <223> OTHER INFORMATION: oligonucleotide
250 <400> SEQUENCE: 13
251 agggaagtat acatgccatg gtggt 25
253 <210> SEQ ID NO: 14

VERIFICATION SUMMARY DATE: 10/18/2004
PATENT APPLICATION: **US/10/603,249** TIME: 09:25:36

Input Set : **N:\Crf3\RULE60\10603249.raw.txt**
Output Set: **N:\CRF4\10182004\J603249.raw**